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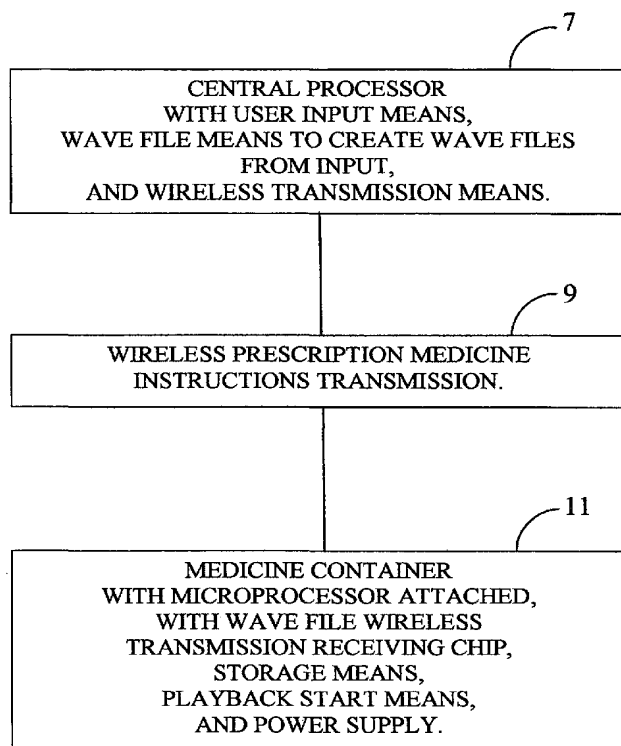
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(54) Title: WIRELESSLEY LOADED SPEAKING MEDICINE CONTAINER



(57) Abstract: The present method of communicating prescription medicine instructions to patient, includes: (a.) providing a medicine container with a microprocessor, and, (b.), providing a central processor separate from the medicine container. The medicine container has the microprocessor attached to the medicine container. The microprocessor includes: (a)(i) a wave file receiving chip; (a)(ii) a wave file storage means; (a)(iii) a wave file audio playback means; (a)(iv) an audio playback start means; and (a)(v) a power supply within the microprocessor. The central processor includes: (b)(i) user input means; (b)(ii) text-to-speech means; (b)(iii) wave file means to create a wave file from the text-to-speech means; and (b)(iv) wireless transmission means to transmit the wave file to the microprocessor wave file receiving chip. Wireless transmission may be radio frequency (RF) transmission systems, infrared (IR) transmission systems and any other wireless transmission systems that are now available or may become available.

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**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- *of inventorship (Rule 4.17(iv))*

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WIRELESSLY LOADED SPEAKING MEDICINE CONTAINER

(Attorney Docket No. IVC-114A)

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BACKGROUND OF THE INVENTION1. Field of the Invention

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The present invention relates to speaking medicine containers, and, more particularly, first creating prescription medicine instructions in a central computer, wirelessly transmitting those instructions to a medicine container, and storing them for subsequent audio playback by a user. Thus, the present invention relates to both the method of performing these steps, and the combination of devices and software (the system) for doing this.

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2. Information Disclosure Statement

The following prior art is representative of the state of the art in the field of pertinent medicine containers or the art pertaining to wireless communications:

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United States Patent No. 6,563,911 B2 describes the present invention a speech enabled automatic telephone dialer device, system, and method using a spoken name corresponding to name-telephone number data of computer-based address book programs. The invention includes user telephones connected to a PBX-type telephony mechanism, which is connected to a telephony board of a name dialer device. User

computer workstations containing loaded address book programs with name-telephone number data are connected to the name dialer device.

The name dialer device includes a host computer in a network; ; a telephony board for controlling the PBX for dialing; a memory within the host computer for storing software and name-telephone number data; and, software to access computer-based address book programs, to receive voice inputs from the PBX-type telephony mechanism, to create converted phonemes from names to match voice inputs with specific name-telephone number data from the computer-based address book programs for initiating an automatic dialing.

United States Patent No. 6,463,462 B1 describes an automated system for delivery of messages to multiple recipients, and for processing of responses to the messages, includes a message client, message server, and system database. A message is created using universal message form. The message content can be translated in to multiple formats and sent to one or more different recipients using one or more different types of messaging devices, including pagers, telephones, fax machines, and e-mail readers. A recipient profile manager allows each recipient to select the messaging devices to be used for message delivery as well as preferred messaging schedules, priorities, and messages security. Receipt of the messages by the recipients is verified, response requirements collected and consolidated from multiple sources and presented to the message originator in structured format.

United States Patent No. 6,394,278 B1 describes a system and method for assisting an operator in sorting mail includes a wireless headset equipped with a microphone, and a workstation that includes a processing unit, voice-recognition and voice-synthesis circuitry, and a database. In operation, addressee information spoken into the microphone is transmitted to the work station where it is used to search the database. Destination information from a matching database record is then output to the operator on one or more of a display terminal, headset speakers, and heads-up display fixed to the head-set. The convenience and enhanced capability provided by this system steaminess operator productivity and sorting volume. The embodiments disclosed herein are primarily directed to a headset that is operated completely remotely from the processing unit, and also to a head set comprising a heads up display having means by which an operator can access the database.

United States Patent No. 6,380,858 B1 describes systems and methods that are provided for facilitating effective self-management of medication treatment by patients. A Smart Tray monitors and reports to third parties a patient's compliance with various medication treatment regimens. Medication containers are provided with electromagnetic tags that provide various informations about medicament contained within a respective container. A Smart Tray is equipped with a processor and reader that interrogates each respective electromagnetic tag to identify

medicament(s) contained within each container. Using the retrieved information, a Smart Tray provided visual and/or audio signals to a patient to remind the patient when and how much of various medicaments to take. A Smart Tray also monitors, via the reader, when a medication container is removed. A Smart Tray can communicate with one or more third parties, such as healthcare products and services via a computer network. In addition, a Smart Tray can communicate with various appliances and can modify medication regimens for particular medicaments in response to data received from various appliances.

United States Patent No. 6,294,999 B1 describes systems and methods that are provided for facilitating effective self-management of medication treatment by patients. A Smart Tray monitors and reports to third parties a patient's compliance with various medication treatment regimens. Medication containers are provided with electromagnetic tags that provide various informations about medicament contained within respective container. A Smart Tray is equipped with a processor and reader that interrogates each respective electromagnetic tag to identify medicament(s) contained within each container. Using the retrieved information, a Smart Tray provides visual and/or audio signals to a patient to remind the patient when and how many of various medicaments to take. A Smart Tray also monitors, via the reader, when a medication container is removed. A Smart Tray can communicate with one of more third parties, such as healthcare providers, pharmacies, and

other suppliers of healthcare products and services via a computer network. In addition, a Smart Tray can communicate with various appliances and can modify medication regimens for particular medicaments in response to data received from various appliances.

5 United States Patent No. 6,150,942 describes an interactive prescription compliance, and life safety system that provides remote and on site verification of procedures related to the health status of a person, including taking of medicines, responsiveness to queries, and attendance of health care and service providers in the home by providing for signals to and from a person's location, with activation when a deviation from a preprogrammed procedure occurs.

10 United States Patent No. 6,032,155 describes an invention that related to a method and apparatus for administering prescribed medication to a patient. The prescribed medication administration system and apparatus dispense prescribed medication, verify the medication is given to a correct patient by and authorized healthcare worker and tracks and records the administration of the medication. The system utilizes a workstation connected to a database containing prescribed medication dose information for various patients. A healthcare worker uses the workstation to manually or automatically dispenses the medication the portable container. An information device is secured to the portable container during transport and administration of the medication to the intended patient. The information device

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medicine compliance. In involves weighing a container of medicine  
with cap with includes scale means located therein which is connected to  
a computer chip with a display unit also located in or on the cap. The  
chip may store the starting weight or tare weight, plus total weight and  
when the container or medicine is picked up by the cap at any time,  
actual weight is fed to the chip. The computer chip may they determine  
the difference between the starting weight and/or display actual amount  
of medicine remaining or consumed. The container of medicine is  
reweighed from time to time with the cap and then chip may compare  
actual weight with compliance required to determine compliance  
and the cap may visually display the compliance results on the display  
unit to inform the patient. An optional audio assist may direct the patient  
to "call the doctor" if a significant compliance deviation is recognized.

Notwithstanding the prior art, the present invention is neither  
taught nor rendered obvious thereby.

#### SUMMARY OF THE INVENTION

The present invention relates to a method of communicating  
prescription medicine instructions to patient, this method includes: (a.)  
providing a medicine container with a microprocessor, and, (b.)  
providing a central processor separate from the medicine container. The  
medicine container includes a storage area for medicine and some type  
of closure, e.g., a cap, and has the microprocessor attached to the

medicine container. The microprocessor includes: (a)(i) a wave file receiving chip; (a)(ii) a wave file storage means; (a)(iii) a wave file audio playback means; (a)(iv) an audio playback start means; and (a)(v) a power supply within the microprocessor, and adapted to power components of the microprocessor.

The central processor includes: (b)(i) user input means; (b)(ii) text-to-speech means; (b)(iii) wave file means to create a wave file from the text-to-speech means; and (b)(iv) wireless transmission means to wirelessly transmit the wave file from the central processor to the microprocessor wave file receiving chip. The phrase “wireless transmission means” shall include radio frequency (RF) transmission systems, infrared (IR) transmission systems and any other wireless transmission systems that are now available or may become available for a transmission of data over airwaves.

The method further includes: (c.) inputting the user input means to create prescription medicine instruction text; (d.) converting the text to electronic speech; (e.) creating a wave file with the electronic speech; (f.) transmitting the wave file to the microprocessor wave file receiving chip; and (g.) storing the wave file for subsequent playback by a user by activating the audio playback starting means.

In some preferred embodiments, the present invention method central processor is a computer system and the user input means is a

conventional computer user input means selected from keyboard, mouse, ball and touch pad.

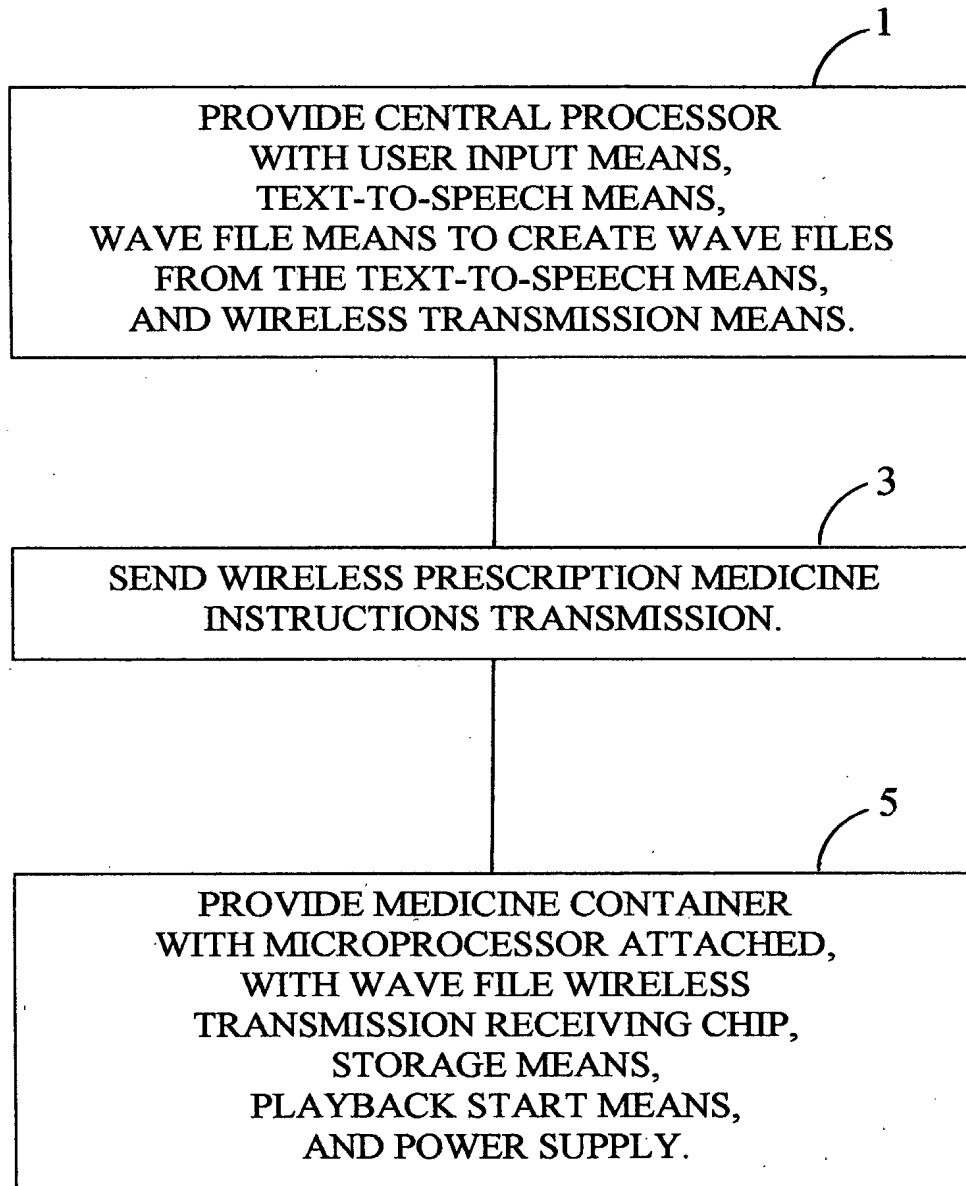
In other preferred embodiments of the present invention method, the following steps are: (h.) creating a unique identifier in the central processor; (i.) transmitting the unique identifier to the microprocessor; and (j.) providing accessing means for accessing the unique identifier from the microprocessor.

The microprocessor may be attached to a bottom of the medicine container, to a top of the medicine container, to a wall of the medicine container or to a cap or other closure

In some embodiments, the user input means is a microphone and the central processor includes conversion means for converting speech to electronic input.

An alternative embodiment present invention method of communicating prescription medicine instructions to a patient includes: (a.) providing a medicine container, the medicine container including a storage area for medicine, and a microprocessor attached to the medicine container. The microprocessor includes: (a)(i) a wave file receiving chip; (a)(ii) a wave file storage means; (a)(iii) a wave file audio playback means; (a)(iv) an audio playback start means; and (a)(v) a power supply within the microprocessor, and adapted to power components of the microprocessor; and (b.) providing a central processor separate from the medicine container. The central processor includes: (b)(i) user input



**FIGURE 1**